

Serial No.: 10/767,128
Examiner: David B. Thomas
Art Unit: 3723

REMARKS

A typographical error has been corrected in the Specification.

Claims 1-17 are pending in the application. Claims 7-9 have been canceled and claims 18-21 have been added to more completely claim the invention.

All prior pending claims stand rejected under 35 U.S.C. § 103(a) as unpatentable over Fenton in view of Baule and Fruhm. The Examiner states that Fenton teaches a driver for a fastener having a taper and twist. The Examiner further states that Fenton teaches the purpose of the "taper and twist is to improve the efficiency of the torque transfer between the driver and the fastener due to increased surface area of contact." The applicant respectfully traverses the examiner's rejection of the claims for the following reasons.

First, Fenton does not teach that the purpose of the taper *and* twist is to improve efficiency of torque transfer. Fenton indicates that this is provided by virtue of the taper alone. Col. 1, lines 16-28. The twist is provided solely for a secondary security feature. Col. 6, lines 17-51.

Second, in both Fenton and Baule, driver-fastener systems are provided which require that the socket on the fastener be twisted in correspondence with the shape of the twisted driver.

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Of course, the slots 48 extending from the recess 44 of the mating female portion 30 are also spiraled accordingly to receive the spiraled lobes 36, with the male portion 28 effectively being threaded into the female portion 30 when the driven member 12 and driven member 14 are engaged. Fenton, col. 6, lines 28-33.

Thus, Fenton takes it for granted that such a twisted driver would only be used in a likewise twisted socket. In Fenton, this is advantageous for security applications in which an object is driven in one direction, but the driver is necessarily disengaged when rotated in the opposite direction; i.e., to prevent loosening of the fastener. Col. 6, lines 33-47.

The examiner states that Baule teaches a driver having a twisted tip with a regular polygonal shape. While Baule does show such a driver, Baule is particularly directed to the design of the fastener's socket, which must be twisted. The driver is twisted only because the socket is twisted, not for any other reason.

Thus, Fenton and Baule both teach that the socket and driver must have complementary twists. Neither Fenton nor Baule teach or suggest the use of a tapered and twisted driver used in a conjunction with non-twisted socket. Claims 1 and 10 have been amended to highlight this distinction. This distinction is particularly important because it recognizes that the driver of the invention can be used (and is intended to be used) in conjunction with conventional fasteners having conventional sockets. None of the cited art teaches this use, nor identifies the advantage of the claimed tapered and twisted driver in conjunction with a non-twisted and non-tapered socket:

With such twist angle, the sides of the tip of the driver along an upper portion thereof (adjacent entry into the [conventional non-twisted] socket) will lie

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against the facets of the socket and impart excellent torque transmission to the fastener. In addition, the edges of driver by making contact against the sides of the socket distribute stresses to thereby provide a system with overall low contact stress. Furthermore, insertion of the tip into the socket of the fastener is facilitated by the tapered design, and the fastener is retained on the driver via engagement of the edges of the driver tip against the sides of the socket. (Spec. at page 9, lines 3-9)

The fact that a twisted and tapered driver can be used to such advantage (stress distribution, fastener retention) in a non-twisted hole is not shown or suggested by the prior art.

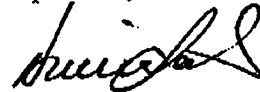
Furthermore, regarding the angle of the twist of the tip of the driver, and the equation for its determination, the examiner cited In re Aller stating that such would have been obvious "since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art." Again, it is submitted that the general conditions of the present claims was not disclosed in the art. The art requires a twisted socket, and the optimum angle for the twist of the driver for such a socket would simply be the twist angle of the socket. In the present claims, the socket is *not twisted*. The present situation is very different. It is not about discovering an optimum range in light of the prior general conditions, but rather about solving a different problem—what twist angle to provide to the driver when used in a non-twisted socket to result in the above cited advantages.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain

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outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,



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